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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,350	03/18/2004	Carlo Misiano	22880	9230
535	7590	11/22/2004	EXAMINER	
THE FIRM OF KARL F ROSS 5676 RIVERDALE AVENUE PO BOX 900 RIVERDALE (BRONX), NY 10471-0900			BUEKER, RICHARD R	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,350

Applicant(s)

MISIANO ET AL.

Examiner

Richard Bueker

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claims 4-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitation of claim 6 is not disclosed, discussed or explained in applicants' specification. Also, the limitation of claim 4 is not disclosed, discussed or explained in applicants' specification.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The subject matter of claims 4, 6 and 11 is not in applicants' specification.

Claims 3-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, the phrase "said source" lacks proper antecedent basis because claim 1 recites plural sources and claim 3 fails to make clear which "said source" of claim 1 is intended to be referenced.

Applicants should also correct the typographical error at page 5, line 19 of the specification.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves (2004/0118347) taken in view of Sato (JP 61-104075) and Hock (5,055,169). Groves (Figs. 1 and 6) discloses an apparatus for applying a thin film including a vacuum chamber, one or more crucibles, a substrate mounted on a substrate holder that is connectable to an RF or pulsed DC source that produces a plasma around the substrate and imparts self bias to the substrate holder, means for feeding a reactive gas mixture to the vacuum chamber, a high energy electron gun source for heating a component in the crucible, and a low energy electron source for ionizing the vaporized component in the same manner as applicants' low energy electron source, and it would inherently reduce self bias in the same manner as in applicants' apparatus. Groves does not disclose the use of a shutter as recited in claim 1. Sato (abstract and Fig. 1), however, teaches that it is desirable to place a shutter between a substrate and electron beam source to provide better control over the coating process. It would have been obvious to provide the apparatus of Groves with a shutter as taught by Sato to improve control of the coating process. Hock is cited for his further explication (col. 5, lines 9-60, for example) of reasons for employing the alternating voltage bias used by Groves and how it functions. Groves (col. 6, lines 20-24) also teaches the desirability of using an insulated feed through for connecting a substrate holder to a biasing power source as recited in claim 3. Regarding claim 2, it is noted that Groves (see Fig. 1, element 5) teaches substrate rotation.

Claims 4-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Groves (2004/0118347) taken in view of Sato (JP 61-104075) and Hock

(5,055,169) for the reasons stated above, and taken in further view of Noma (JP 2-022457). Noma (see abstract and the Fig.) teaches the desirability of measuring the thickness of a deposited thin film as it is deposited on a substrate and controlling the deposition of the coating on the substrate. It would have been obvious to provide the process control means taught by Noma for the apparatus of Groves for the desirable purpose of improving the process control of Groves' apparatus. Regarding claim 5, the electron beam heating of Groves is electrical heating.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Groves (2004/0118347) taken in view of Sato (JP 61-104075), Hock (5,055,169) and Noma (JP 2-022457) for the reasons stated above, and taken in further view of Wegman (4,748,935) or Tsujimoto (6,012,413), who both teach that it is desirable to rotate a crucible for electron beam evaporation. It would have been obvious to rotate an evaporation crucible in the apparatus of Groves for the desirable purpose taught by Wegman or Tsujimoto.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Groves (2004/0118347) taken in view of Sato (JP 61-104075), Hock (5,055,169) and Noma (JP 2-022457) for the reasons stated above, and taken in further view of Paine (3,556,048) (the Fig.) or Konishi (JP 59-070769) (Fig. 5) who both teach that a component in a crucible can be heated for evaporation by using plural electron beams. It would have been prima facie obvious to use two electron beams to heat the component of Groves' crucible because Paine and Konishi make clear that a component can be successfully evaporated in that manner.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

In a telephone conversation on Sept. 22, 2004, the examiner discussed with Mr. Dubno the possibility of amending the pending apparatus claims in a manner analogous to the process claims of the parent application, however no final agreement was reached.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Bueker whose telephone number is (571) 272-1431. The examiner can normally be reached on 9 AM - 5:30 PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (571) 272-1439. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Bueker
Richard Bueker
Primary Examiner
Art Unit 1763